



Association of American
State Geologists



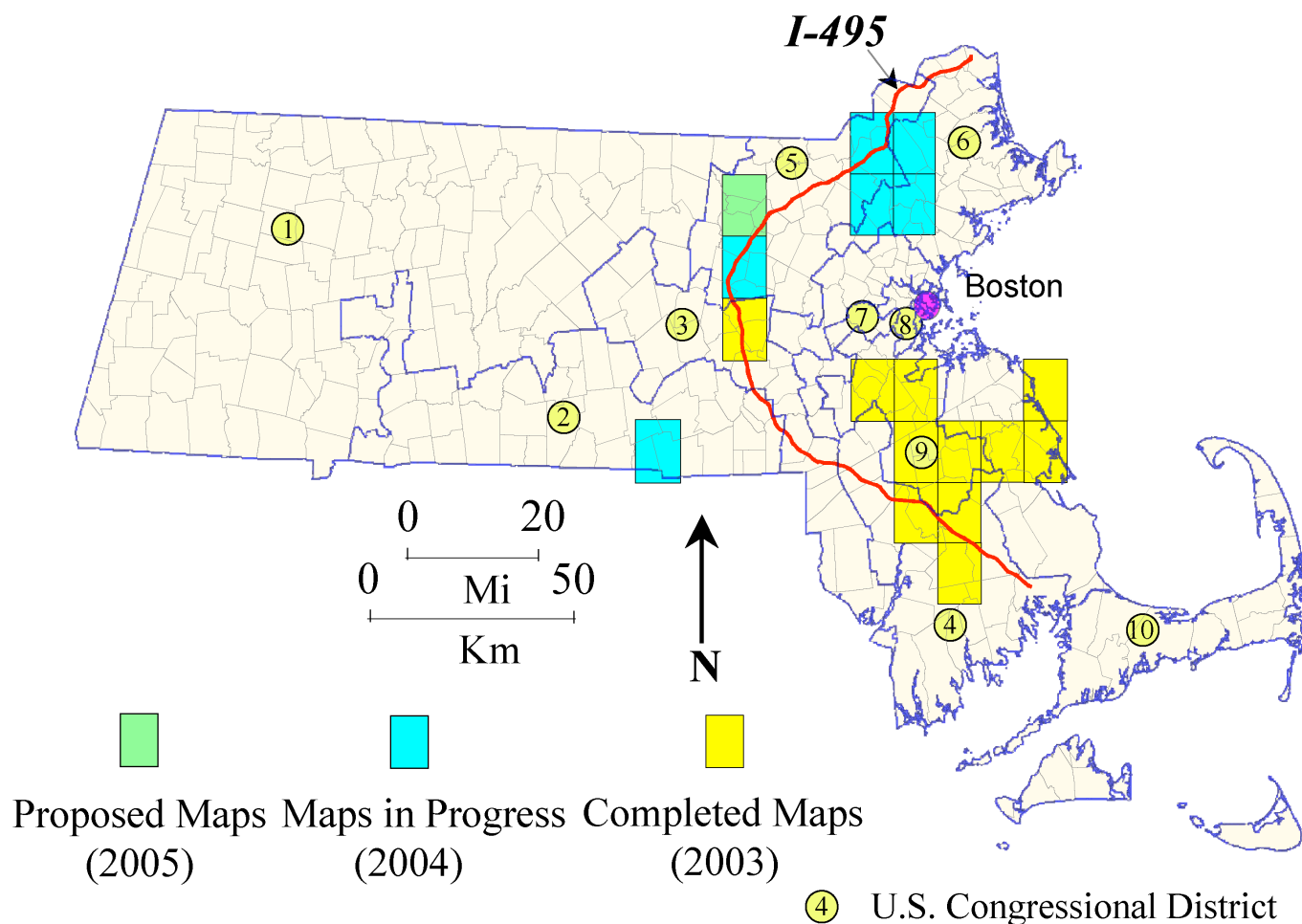
United States
Geological Survey



National Cooperative Geologic Mapping Program

STATEMAP Component: States compete for federal matching funds for geologic mapping

MASSACHUSETTS



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SUMMARY OF STATEMAP GEOLOGIC MAPPING PROGRAM IN MASSACHUSETTS

Federal Fiscal Year	Quadrangles Mapped or Vectorized	State Dollars	Federal Dollars	Total Project Dollars
2003	Marlborough, Norwood, Blue Hills, Brockton, Taunton, Whitman, Bridgewater, Assawompset Pond, Hanover, Duxbury, Scituate	43,432	41,209	84,611
2004	Lawrence, South Groveland, Reading, Wilmington, Hudson, Oxford	78,120	78,118	156,238
2005	Ayer	60,986	60,851	124,751
	Totals	182,538	180,178	362,630

Cooperative funding through the STATEMAP component of the National Cooperative Geologic Mapping Program is helping Massachusetts to map or vectorize the bedrock and/or surficial geology of eighteen 1:24,000 scale quadrangles. These projects cover 8 of the 10 Congressional districts in Massachusetts and lie within portions of 7 counties, Bristol, Essex, Middlesex, Norfolk, Plymouth, Suffolk and Worcester.

Geologic maps are an important source of natural resource information. Whether you are a contractor responsible for a major civil engineering project, or a business considering erecting a new facility, or simply a future homeowner intending to dig a foundation or drill a water well, planning begins by first consulting a geologic map. These maps are used frequently by geological consultants and by the aggregate industry. As one hydrogeologist reported “The mapping effort was clearly conducted with water resources development of fractured rock aquifers as an anticipated use of these products. ...I am not aware of any other geologic quadrangle maps in Massachusetts and New York that present this type of information, and would be encouraged if more maps of this type were prepared”.

There are basically two types of maps, bedrock maps and surficial maps. Bedrock geologic maps show the type, age and distribution of bedrock near the earth’s surface. In other words, the maps depict the bedrock that would be exposed at the earth’s surface if the soil and vegetation were completely removed. Surficial geologic maps show the type and distribution of deposits on the earth’s surface that lie on top of the bedrock. These deposits are typically unconsolidated sediments (not cemented into rock) comprised of gravel, sand, silt and clay in various mixtures. This information is critical to knowing where our important aquifers, recharge areas and sand and gravel resources are located.

Geologic maps are essential for evaluating and predicting the consequences of natural and human-induced activities. Such information used in the early stages of planning produces long-term benefits and reduces costs associated with unwanted outcomes after project completion. Some of the typical uses of geologic maps are:

- Evaluation of geologic hazards
- Planning transportation and utility routes
- Site selection for landfills, treatment facilities, schools, waste disposal sites
- Earth science research
- Regulatory decision making
- Development and protection of groundwater
- Environmental assessments and protection planning
- Land use planning

For these uses and for many more, intelligent planning and problem solving begins with a geologic map.